

NEW DESCRIPTIONS

A NEW SPECIES OF *HORALABIOSA* SILAS FROM A KERALA STREAM OF THE WESTERN GHATS¹

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(With two text-figures)

Key words: *Horlabiosa*, Panniyar stream, Kerala

A new species *Horlabiosa arunachalami* was collected from a stream in Santhamparai hills, Western Ghats, Kerala. It is distinguished from other species of the genus in having 2 simple and 8 branched dorsal rays, and a poorly developed callus pad. It differs from *H. joshuai* in the absence of scales in the predorsal region, and differs from *H. palaniensis* in having fewer scales on the ventral side.

INTRODUCTION

The genus *Horlabiosa* Silas is represented by two species in India, which are endemic to the east flowing streams of the southern Western Ghats, Tamil Nadu. A very unique character of these fishes is the presence of a callus pad on the ventral side. External morphology seems closely related to the genus *Garra* Hamilton, but differs widely from it in the mouth shape, position and presence of post-labial callus pad in the mental region. Silas (1953) described *Horlabiosa joshuai* from the upper reaches of Tamiraparani river at Singampatti, Tamil Nadu. Later, it was synonymised with the genus *Garra* (Talwar and Jhingran 1991). Subsequently, Rema Devi (1992) redescribed the species after collecting a good number of specimens of *H. joshuai* from various altitudes in the headwaters of Tamiraparani. Recently, Rema Devi and Menon (1995) added one more species, i.e. *H. palaniensis* from Palani hills, Western Ghats, Tamil Nadu. During the present survey under the Western Ghats fish biodiversity programme, a new species of *Horlabiosa* was collected from Panniyar stream, Santhamparai hills of Idukki district, Kerala.

STUDY AREA

Panniyar is a tributary of the major west flowing river, Periyar. The Panniyar stream originates from Santhamparai hill region of Idukki district, Kerala and drains into the Ponmudi reservoir. The sampling site is located between Pooparai (4 km from Santhamparai) at an altitude of 912 m above msl (9° 82' N; 77° 15' E). It is a third order stream mainly with large boulders and a rocky bed. There are 5-10 pools and 2-3 riffles in a 100 m stretch. Water temperature is 17 °C and air temperature is 23 °C. The natural riparian vegetation has been altered completely with the introduction of cardamom and tea plantations. Scattered old growth forests provide an instream cover of 30%. Cover refers to hiding cover for fish. It can be on, in, next to, or overhanging the water, if it is close enough to provide protection for fish (Armantrout 1992). Canopy cover (60-70%), mostly understory and cardamom plantation, extends to the stream side in some areas.

MATERIAL AND METHODS

Fishes were collected using gill nets, drag nets and scoop nets. All specimens are preserved in the Sri Paramakalyani Centre for Environmental Sciences, Manonmaniam Sundaranar University, Alwarkurichi, Tamil Nadu, India. The morphometric measurements

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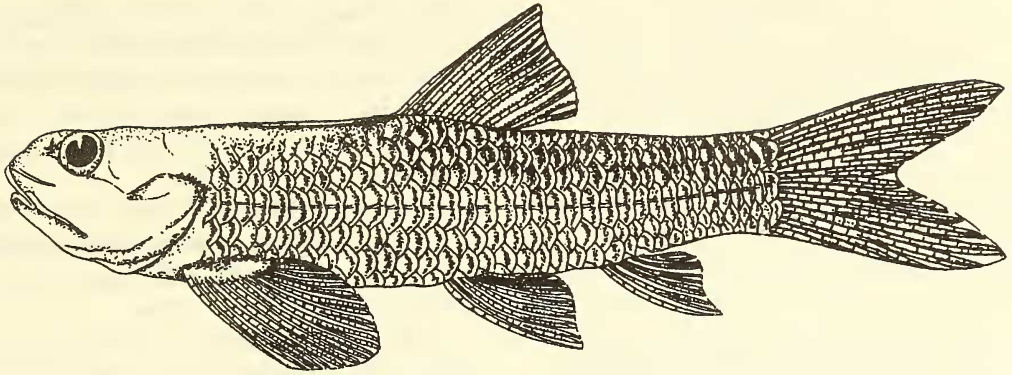


Fig. 1: Lateral view of *Horalabiosa arunachalami*, Holotype 54 mm SL

were studied using standard methods (Hubbs and Lagler 1964).

***Horalabiosa arunachalami* sp. nov.**
(Figs 1-2)

Holotype: ZSI/SRS F. 5324, 54 mm standard length from a tributary of Panniyar stream, above Pommudi reservoir at Santhamparai hills, Idukki district, Kerala, India. Alt. 912 m, 9° 82' N; 77° 15' E, Coll. M. Arunachalam, J.A. Johnson and R. Soranam, 16.v.1996.

Paratypes: 7 specimens, SPKCES F. 2, 25 to 30 mm SL collected from the same locality on the same day. All have been preserved in Sri Paramakalyani Centre for Environmental Sciences, Manonmaniam Sundaranar University.

Materials examined: ZSI/SRS F. 3909 - Holotype *H. palaniensis* 77.0 mm SL, Palani Hills, Western Ghats. *H. joshuai* 10 exs., 70 to 45 mm SL, type locality Manimuthar, Tamiraparani river, Tirunelveli district, from our own collections and the specimens are preserved in SPK Centre for Environmental Sciences, Manonmaniam Sundaranar University, Alwarkurichi, Tamil Nadu.

DIAGNOSIS

Horalabiosa arunachalami is distinguished from the other two known species

by its 2 simple and 8 branched rays in the dorsal and poorly developed post-labial callus pad. Additionally, it is distinguished from *H. joshuai* by the absence of predorsal scales and by having a larger eye (eye diameter 3.62 vs. 4.81 in HL). *H. arunachalami* differs from *H. palaniensis*, in having very few scattered scales on the ventral side and a larger head (Head length 3.63 vs. 4.24 in SL).

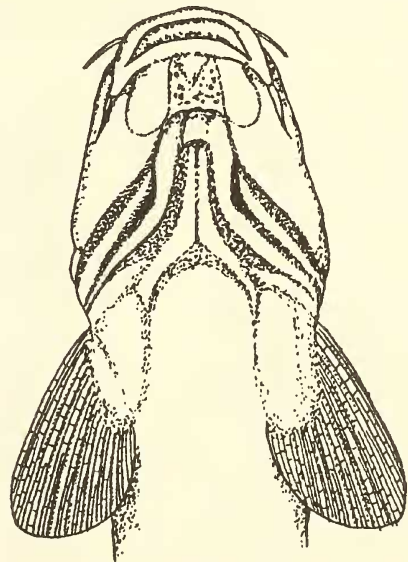


Fig. 2: Ventral view of head of *Horalabiosa arunachalami*

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DESCRIPTION

D.2/8; P.1/13; V.1/7; A.1/5; C.19; L.1. 34-35; L.tr.3.5, 2.5. Predorsal scale absent. Body moderately elongate; dorsal profile slightly compressed, its depth 5.42 (4.88-6.28) in SL; head somewhat depressed, rounded anteriorly, its length 3.63 (3.33-4.20) in SL. Eye large, lateral in position, not visible from ventral side, its diameter 3.62 (3.25-3.75), interorbital width 2.41 (2.20-2.60), snout length 2.93 (2.72-3.25) in length of head. Rostral groove in front of the mouth well developed and separate upper lip from the rostrum; lips thick, fleshy and continuous at angles. Post-labial callus pad thin, poorly developed, with minute papillae. The rostral and maxillary barbels are well developed, maxillary barbels are longer than rostral and extend beyond the post-orbit of eye. Dorsal fin originates well before the origin of pelvic fin and it is inserted midway between the tip of the snout and base of caudal fin.

Fins: Pectoral fin oval, horizontally placed, its length 4.93 (4.28-5.50) in SL; 1.36 (1.22-1.62) in HL. Pelvic small, not reaching

vent, its length 5.72 (5.05-6.3) in SL; 1.57 (1.37-1.85) in HL. Vent situated close to the anal fin, distance from vent to anal fin 3.70 (2.80-4.05) in distance from pelvic fin. Lateral line complete, with 34-35 scales. For further morphometric data, see Table 1.

Colour: Body light greenish-yellow, darker above. Ventrally dull white. No markings on the body. After preservation, body light yellowish-brown and ventrally pale yellow.

Etymology: Named in the honour of Prof. M. Arunachalam, Manonmaniam Sundaranar University, in appreciation of his interest in various aspects of stream fishes.

DISCUSSION

The known species of *Horallabiosa joshuai* and *palaniensis* are exclusively from eastward flowing streams of the Western Ghats in Tamil Nadu. The new species *H. arunachalami* represents the fauna from a westward flowing stream of the Western Ghats, Kerala, which is of special interest, showing the distribution of the genus *Horallabiosa* in the southern part of the

TABLE 1
MORPHOMETRIC DATA OF *H. ARUNACHALAMI* SP. NOV. COMPARED WITH *H. JOSHUAI* AND *H. PALANIENSIS*

Morphometric Characters Proportions	<i>H. arunachalami</i> sp. nov. Present (n=8)		<i>H. joshuai</i> type locality (n=10)		<i>H. palaniensis</i> Holotype
	Range	Mean	Range	Mean	
Standard length / Body depth	4.88-6.28	5.42	4.66-6.57	5.52	5.83
Standard length / Head length	3.33-4.20	3.63	3.04-3.92	3.57	4.24
Head length / Eye diameter	3.25-3.75	3.62	3.66-5.75	4.81	5.78
Head length / Interorbital width	2.20-2.60	2.41	2.20-2.87	2.50	2.64
Head length / Snout length	2.72-3.25	2.93	2.80-3.28	3.11	5.56
Head length / Pectoral fin	1.22-1.62	1.36	1.08-1.53	1.27	1.21
Head length / Pelvic fin	1.37-1.85	1.57	1.30-1.76	1.50	1.51
Standard length / Pectoral fin	4.28-5.50	4.93	3.83-5.00	4.53	6.42
Standard length / Pelvic fin	5.05-6.30	5.72	4.60-5.38	5.07	6.09
Standard length / Predorsal distance	1.80-2.07	1.92	1.89-2.03	1.98	1.98
Pelvic to vent / Distance to anal fin	2.80-4.05	3.70	2.60-3.33	2.98	4.36
Length of caudal peduncle / Height of caudal peduncle	1.33-2.00	1.54	1.25-1.60	1.46	1.64

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Western Ghats. Moreover, the species coexists with other bottom-dwelling fishes like *Garra*, *Homaloptera* and *Noemachilus* species.

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